

REMARKS

Claim Rejections 35 USC 112

The rejection of claims 6, 7, 11, 12, 15 and 16 under 35 USC 112 is respectfully traversed.

The examiner has objected that “the disclosure lacks an adequate description regarding what is in the recited chemical constituent, how it is introduced - - and how such steps could be controllable”.

Applicants maintain that these steps are conventional in the field of integrated circuit formation and that therefore they are known to those skilled in the art.

For example, the chemical constituents are the same as those used in planar FET technology; they are introduced by opening a valve to add a precursor to the gas flow in a CVD, PEVCD, sputter, etc. tool at a time when the bottom or top of the nanotube is being formed; and they are

controlled by adjusting the valve to vary the flow rate at the time when the bottom or top of the nanotube is being formed.

Applicants remind the examiner that he is required to establish a prima facie case that one skilled in the art would NOT know how to perform those stock, conventional steps in integrated circuit processing.

As an example, the reference cited by Roesner on the bottom of column 1 establishes that techniques for doping carbon nanotubes with boron or nitrogen, two well known dopant materials, are known in the art.

Claim Rejections 35 USC 102

The rejection of claims 1 - 4, 8, 9, and 13 under 35 USC 102(e) and the rejection of claims 5 - 7, 10 - 12 and 14 - 16 under 35 USC 103(a) are respectfully traversed as being moot in view of the amendments.


Claim 1, as amended, incorporates the limitations of claim 6 and requires that only one of the top and bottom of the nanotube is selectively doped.

This permits the remainder of the nanotube to have properties not affected by the doping, in contrast to the prior art which was forced to dope both the source and drain (and channel regions near source and drain) the same or to construct expensive masks to block an implant.

Support is provided in paragraph 49.

For the foregoing reasons, allowance of the claims is respectfully solicited.

Respectfully submitted,

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